

# City of Bellevue Drinking Water Quality Report

*Results from Testing in 2008*  
High Quality Water  
You Can Depend On



June 2009

PWS ID# WA5305575

## ***Bellevue's Water Gets High Marks***

*We're pleased to provide you with information about our region's most precious resource—drinking water. Once again, Bellevue's water met or exceeded all state and federal drinking water standards during rigorous testing in 2008. This annual Water Quality Report is sent in accordance with the Federal Safe Drinking Water Act. Please share the report with others. It's also available in multiple languages on the City of Bellevue's website at [www.bellevuewa.gov/utilities](http://www.bellevuewa.gov/utilities).*



### **Where Does Your Water Come From?**

Bellevue's drinking water comes from the Cedar River and Tolt River watersheds in the Cascade Mountains. Bellevue is a member of Cascade Water Alliance, an organization that provides water to Bellevue and seven other cities and water districts in the Puget Sound region. Cascade and its members are working together to ensure a clean, safe, and reliable water supply for people, the environment, and a growing economy.

Cascade has been working to make sure members will have enough water for the future by developing new water supplies and connecting regional systems. In March 2008, Cascade purchased Lake Tapps from Puget Sound

Energy. When the sale closes in 2009, Cascade will become the new owner and manager of this valuable resource. During the next two decades, Cascade will develop a new municipal water supply while managing the lake for recreation and enhancing fish habitat in the White River.

### **Source Water Assessment**

The Washington State Department of Health (DOH) evaluates potential threats to the safety of water supplies by assessing sources of contamination prior to treatment. The Cedar River and Tolt River watersheds were given a susceptibility rating of high.

DOH has determined that all surface water systems are considered highly susceptible to contamination. For more information, visit DOH's website at: [www.doh.wa.gov/ehp/dw/default.htm](http://www.doh.wa.gov/ehp/dw/default.htm)

### **Treating Water for Safety**

Water at the Cedar and Tolt supply is treated to ensure safety. Chlorine is added to destroy Giardia, bacteria, and viruses. (The average chlorine concentration is less than 1 part per million.) Fluoride is added at levels recommended by health professionals to prevent tooth decay. Minerals (calcium oxide and sodium carbonate) are added to reduce the soft water's corrosive effect on plumbing. Treatment also removes and inactivates *Cryptosporidium parvum*, a disease-causing organism found in the natural environment. In 2008, your water was monitored for *Cryptosporidium*; it was found in 1 of 3 samples from the Cedar supply and in 0 of 4 samples from the Tolt. The levels before treatment were very low, and no disease outbreaks have been associated with Bellevue's water.

# 10 Reasons Water is the Best Drink In Town



## One

*Water is essential for life. People can survive about 3 weeks or more without food, but only about 3 days without water.*

## Two

*Water makes up about two-thirds of your body weight; every system in your body depends on water.*

## Three

*Water has no calories, no fat, and no sugar; it helps maintain healthy body weight by increasing metabolism and regulating appetite.*

## Four

*Your body uses water to flush out toxins and wastes.*

## Five

*Water helps transport nutrients and oxygen toward organs and cells.*

## Six

*Water aids in digestion and helps prevent constipation.*

## Seven

*Water may reduce the risk of bladder cancer (American Cancer Society).*

## Eight

*Water regulates body temperature and is the best choice for staying hydrated; dehydration can zap energy and affect your mental performance.*

## Nine

*Water lubricates and cushions joints and muscles.*

## Ten

*Unlike bottled water, which can cost as much as \$10 a gallon, tap water costs only one-cent per gallon. Wow, what a bargain!*

# From the Environmental Protection Agency



To ensure that tap water is safe to drink, the EPA and the Washington State Dept. of Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

The presence of these contaminants does not necessarily indicate that the water poses a health risk. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or human activity. Substances that may be present in source water include:

***Microbial Contaminants,*** such as viruses and bacteria, which may come from sewage treatment plants, septic

systems, agricultural livestock operations, or wildlife;

***Inorganic Contaminants,*** such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

***Pesticides and Herbicides,*** which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

***Organic Chemical Contaminants,*** including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

***Radioactive Contaminants,*** which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline at 1-800-426-4791 or visit: [www.epa.gov/safewater](http://www.epa.gov/safewater).

# Lead and Drinking Water



**Safe Drinking Water Act Hotline**  
Direct your drinking water questions to the EPA's hotline: 1-800-426-4791  
or email: [hotline-sdwa@epamail.epa.gov](mailto:hotline-sdwa@epamail.epa.gov)

**Lead and Drinking Water**  
Infants and young children are typically more vulnerable to lead in drinking water than the general population. *Water delivered to your home does not contain lead.* However, it is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated

lead levels in your home's water, you may wish to have your water tested. A private water-quality testing lab can test your water for a fee. Call 206-684-7801 for a recorded listing of Puget Sound area labs. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791. See following page for a key to abbreviations listed in the chart below.

## Lead and Copper Monitoring Results

Parameter and Units	MCLG	Action Level*	2008 Results+	Homes Exceeding Action Level	Source
Lead, ppb	0	15	14	5 of 52	Corrosion of household plumbing systems
Copper, ppb	1.3	1.3	0.17	0 of 52	Corrosion of household plumbing systems

\* 90th Percentile: i.e. 90 percent of the samples were less than the values shown.  
+ The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.



*Your water is monitored and tested 365 days a year, and results confirm your water is safe. This chart shows that after testing for nearly 200 compounds, only a few were found, and all were below the maximum levels allowed by the Environmental*

*Protection Agency. If you would like to see a list of all the compounds your water was tested for in 2008, but not detected, please call Utilities Drinking Water Quality Office at 425-452-5208 or visit the city's website at [www.bellevuewa.gov/water-quality.htm](http://www.bellevuewa.gov/water-quality.htm)*

## Water Quality Results in 2008

		EPA Allowable Limits		Levels in Cedar River		Levels in Tolt River			
Detected Compounds	Units	MCLG	MCL	Average	Range	Average	Range	Typical Sources	Compliant
Raw Water (before treatment)									
Total Organic Carbon	ppm	NA	TT	0.8	0.4 to 1.3	1.3	1.1 to 1.5	Naturally present in the environment	Yes
Cryptosporidium	#/100L	NA	NA	ND	ND to 2	ND	ND	Naturally present in the environment	Yes
Finished Water (after treatment)									
Turbidity (cloudiness)	NTU	NA	TT	0.4	0.2 to 2.6	0.06	0.04 to 0.238	Soil runoff	Yes
Fluoride	ppu	4	4	0.97	0.8 to 1.0	1.0	0.9 to 1.1	Water additive to promote strong teeth	Yes
Bromate	ppb	0	10	0.05	ND to 0.7	0.13	ND to 0.77	By-product of drinking water disinfection	Yes
Barium	ppb	2000	2000	1.5	One sample	1.5	One sample	Erosion of natural deposits	Yes
Nitrate	ppm	10	10	ND	One sample	0.1	One sample	Erosion of natural deposits	Yes
Total Trihalomethanes	ppb	NA	80	Average = 24.6 Range = 14.7-36.9				By-product of drinking water chlorination	Yes
Haloacetic Acids (5)	ppb	NA	60	Average = 23.0 Range = 13.2-35.4				By-product of drinking water chlorination	Yes
Total Coliform	% positive samples	0	5%	Highest month = ZERO Annual Average = ZERO				Naturally present in the environment	Yes
Chlorine	ppm	MRDLG = 4	MRDL = 4	Highest month = 0.81 Range = 0.05-1.49				Water additive used to control microbes	Yes

### Key to Abbreviations

**MCLG:** Maximum Contaminant Level Goal – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**MCL:** Maximum Contaminant Level – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**MRDL:** Maximum Residual Disinfectant Level – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG:** Maximum Residual Disinfectant Level Goal – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits

of the use of disinfectants to control microbial contaminants.

**NTU:** Nephelometric Turbidity Unit – Turbidity is a measure of how clear the water looks. The turbidity MCL that applied to the Cedar supply in 2007 was 5 NTU and 0.3 NTU for the Tolt for at least 95% of the samples in a month. 100% of the samples from the Tolt in 2007 were below 0.3 NTU in 11 of the 12 months. For one month, the turbidity was less than 0.3 for 99.98% of the time.

**NA:** Not Applicable    **ND:** Not Detected

**ppm:** 1 part per million = 1 mg/L = 1 milligram per liter. One ppm is approximately equal to 1 drop in 20 gallons of water.

**ppb:** 1 part per billion = 1 ug/L = 1 microgram per liter. One ppb is approximately equal to 1 drop in 22,000 gallons of water. 1 ppm = 1000 ppb

**TT:** Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water

# Water System Improvements

Bellevue is facing some serious challenges with its aging water distribution system, a concern for cities nationwide. Although Bellevue is in a better position than many cities because of long-range financial planning, asset management, and capital investment programs, the city will need to make a significant investment to maintain and replace aging infrastructure to ensure that you have safe, reliable water every time you turn on the tap.

In 2008, Bellevue replaced 11,000 linear feet (about two miles) of water pipe in neighborhoods throughout Bellevue and adjacent communities served by Bellevue. Over the next 10 years, the replacement rate for water pipe will increase from two miles a year to five miles per year.

Other improvements last year include water quality upgrades to the Forest Hills Reservoir, which serves Somerset and the Eastgate/Cougar Mountain neighborhoods, and the Clyde Hill Reservoir, which serves part of Clyde Hill and Northwest Bellevue. Valves, piping, and electrical controls

were installed to increase the mixing of water in the reservoirs and provide fresher water to the surrounding area. The project also included

installation of water quality sampling lines and chlorine analyzers to allow for monitoring of water quality.



*Installation of new water quality sampling lines (left) and a new valve control vault (right) will provide fresher water to residents of Clyde Hill and Northwest Bellevue.*

# Water Conservation Performance Report



*The City of Bellevue  
saved over 149,000 gallons of  
water per day in 2008.*

In compliance with state requirements, the City of Bellevue adopted its first six-year water conservation savings goal in November 2007. The city is required to report on progress towards the goal annually to state and city customers. This report covers the water conservation goal, 2008 program results, distribution system leakage, and metering.

Bellevue's water conservation goal is to save 355,000 gallons per day (gpd) by the end of the six-year (2008-2013) water conservation program—an average of 59,000 gpd of new savings each year. The first year Bellevue saved over 149,000 gallons of water per day, representing 42 percent of the 2008–2013 goal.

The goal is supported by the city's 2008-2013 Water Conservation Program, which is comprehensive and contains both regional and local elements.

As a member of Cascade Water Alliance (Cascade), the city participates in its shared

regional water conservation program. Through this cooperative alliance, Bellevue and its partners select programs that are cost effective and appropriate for each agency's customers. Thanks to community support and participation, these programs have been very successful. The resulting water savings are shown in the table on the next page.

Bellevue supports its programs with outreach and education. Local programs complement regional efforts, focusing on educating youth, reducing seasonal peak water use, and fostering participation in regional programs. Comprehensive youth education programs, including training, resources, and field trips, reach 3,000 students annually through a coordinated effort with the Bellevue School District. The Waterwise Demonstration Garden project educates the community about landscape water conservation at the city's Botanical Garden. Seasonal classes, displays,

and how-to resources are available throughout the year. Community volunteers donated 375 hours last year, working in the garden while learning more about waterwise plants and practices.

Bellevue does not operate any water production facilities, but purchases all of its water from Cascade. All water supply purchased and water consumed by customers is fully metered, and the city has an active leak detection program. The total volume of water purchased to meet the needs of approximately 135,000 residents and 140,000 employees within Bellevue's water service area was 5,910 million gallons in 2008.

Distribution system leakage or unaccounted-for water was 7.8 percent in 2008. Municipal unaccounted-for water volumes generally range between 10 and 15 percent of total consumption. Bellevue's record of less than 10 percent is considered very good by industry standards.



# Water Conservation Performance Report

## 2008 Water Conservation Program Results

Program	Eligible Customer Sectors			Savings (gallons per day)
	Single- family	Multi- family	Commercial	
Clothes Washer Rebates	X	X	X	16,284
Irrigation System Audits	X		X	1,378
Irrigation System Upgrade Rebates	X	X	X	216
Leak Detection Dye Strip Distribution	X			14,005
Showerhead and Aerator Replacements	X	X	X	61,777
Pre-Rinse Spray Heads Replacements			X	40,415
Toilet and Urinal Replacements	X	X	X	14,942
Water Conservation Kits	X			55
Commercial Process Upgrades			X	0
<b>Total Savings</b>				<b>149,072</b>



For up-to-date information on the city's water conservation efforts, call Bellevue Utilities at 425-452-4127.

Rebate information and application forms can be found at [www.cascadewater.org](http://www.cascadewater.org).

## Get up to a \$100 Rebate on WaterSense Toilets

Are you considering a bathroom remodel or looking for ways to lower your utilities bills? Bellevue and Cascade Water Alliance now offer up to a \$100 rebate for the purchase of high-efficiency WaterSense toilets. Toilets bearing the WaterSense label use 1.28 gallons per flush (20 percent less than the current plumbing standard) and must demonstrate reliable flushing.

In a typical home with older toilets, almost one-third of the indoor water use goes to flush toilets. You can lower your water use by thousands of gallons per year by making the switch to a WaterSense labeled toilet. After the rebate, a typical home will recover the cost of the toilet replacements in 1 to 4 years in savings on their utilities bills.

Switching out old water-guzzling toilets with new WaterSense toilets is a great way to protect the environment and save money. To learn more, visit [www.cascadewater.org](http://www.cascadewater.org).

# Bellevue Water Facts



## The System:

**27**  
water  
reservoirs

**23**  
pump  
stations

**616**  
miles of  
water main  
pipes

**40,000**  
water  
meters

**5,704**  
fire hydrants

**8,900**  
valves

In 2008,  
Bellevue  
provided  
**5,910**  
million  
gallons  
of water to  
**135,000**  
residents and  
**140,000**  
employees.

## Frequently Asked Questions

### What is a safe container to carry water in?

You've probably heard in the news that bisphenol A (BPA), a chemical found in some plastics, has been linked to a host of health problems, including cardiovascular disease, liver failure, and type 2 diabetes (*Journal of the American Medical Association* 9/17/08.) To avoid BPA, buy a plastic bottle that says "BPA free," a stainless steel container, or clean a glass bottle and reuse it. If you are drinking out of the same container you carry water in, be sure

to wash it often with soap and hot water to avoid bacteria.

### What is a Cross-Connection and how could it harm my drinking water?

A cross-connection occurs when your drinking water pipes come in contact with a source of contamination. An example is a sprayer that connects to the end of your garden hose to spray weed killer. If the water pressure drops at the same time you turn on the hose, "backflow" can happen—the weed killer is drawn back into the hose and into the city's water system. Cross-connections also include irrigation

systems, photo developing equipment, dialysis machines, and industrial water uses.

To prevent backflow, avoid using applicators that connect to your garden hose. If you have an irrigation system, photo development equipment or dialysis machine, state law requires that you get a backflow prevention device or other specialized plumbing and have it tested annually. Backflow prevention devices help ensure that your drinking water is safe.

For more information about the city's Cross-Connection program, call 425-452-5208.

## New! Pay Your Bill By Phone

Through MyUtilityBill By Phone, a new interactive voice response system, customers can access account information by phone any time day or night. Pay your bill or retrieve bill and payment history by calling 425-452-6979. To pay a bill, have your account number and MasterCard or Visa card ready. The city implemented online bill payment in 2008 and is following up with MyUtilityBill By Phone. Customers now have a variety of ways to access information and make payments. Customer service representatives are still available between 8 a.m. and 5 p.m. Monday-Friday.

## Get Involved

*The Environmental Services Commission advises Bellevue City Council on Utilities issues. To get involved in water issues, call Utilities at 425-452-4497 for meeting dates and other information.*

## For More Information

*If you have questions about this report or your drinking water, call Bellevue's Drinking Water Office at 425-452-5208.*

*For Utilities 24-hour Emergency Services, call 425-452-7840. For billing issues, call 425-452-6973. Or send an email to [Utilities@bellevuewa.gov](mailto:Utilities@bellevuewa.gov)*



## People With Special Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immunocompromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections.

These people should seek advice about drinking water from health care providers. The EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

This report contains important information about your drinking water. To read it in Russian, Spanish, Vietnamese, or Chinese, please visit the City of Bellevue's web site at [www.bellevue.gov/utilities.htm](http://www.bellevue.gov/utilities.htm).

Este informe contiene información importante acerca del agua potable. Para leerla en español, visite el sitio web de la ciudad de Bellevue en [www.bellevue.gov/utilities.htm](http://www.bellevue.gov/utilities.htm).

Bản báo cáo này chứa thông tin quan trọng về nguồn nước uống của quý vị. Nếu muốn đọc bằng tiếng Việt, xin hãy truy cập website của thành phố Bellevue tại [www.bellevue.gov/utilities.htm](http://www.bellevue.gov/utilities.htm).

本報告包含有關您的飲用水的重要資訊。

如欲閱讀繁體中文版，請參觀貝爾維尤市 (City of Bellevue) 的網站 [www.bellevue.gov/utilities.htm](http://www.bellevue.gov/utilities.htm)。

В данном отчете содержится важная информация о питьевой воде в нашем городе. Чтобы ознакомиться с ней на русском языке, пожалуйста, зайдите на веб-сайт города Бельвью [www.bellevue.gov/utilities.htm](http://www.bellevue.gov/utilities.htm).

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